

# Specimen Label



Dow AgroSciences



## SPECIALTY HERBICIDE

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Provides control of listed annual grasses and broadleaf weeds in:

- Established lawns
- Commercial sod farms
- Ornamental and sports turf, sport fields, golf course fairways, roughs, tee boxes, unimproved turfgrass areas
- Container grown ornamentals
- Field-grown ornamentals
- Landscape ornamentals
- Non-cropland: airports, barrow ditches, cemeteries, communication transmission lines, electrical power and utility rights-of-way, fencerows, gravel pits, hard-surface cracks, industrial sites, military lands, mining and drilling areas, non-irrigation ditch banks, gas and oil pads, parking lots, petroleum tank yards, pipelines, pump stations, railroads, roadsides, dry storm-water or debris retention areas, service roads, solar fields, storage areas or yards, substations, vacant lots and other non-crop residential and commercial areas
- Natural areas (open space): restoration sites, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas
- Christmas tree farms

In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).

GROUP	3	HERBICIDE
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### Active Ingredient

dithiopyr: 3,5-pyridinedicarbothioic acid, 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-S,S-dimethyl ester .....	40.0%
Other Ingredients .....	60.0%
Total .....	100.0%

Each 5 ounce water-soluble pouch contains 0.125 lb of active ingredient.

## Precautionary Statements

### Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-445

## CAUTION

Causes Eye Irritation • Harmful If Absorbed Through The Skin

Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Avoid breathing dust. Remove contaminated clothing and wash clothing before reuse.

## Personal Protective Equipment (PPE):

Applicators and other handlers (other than mixer loaders) must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Mixer and Loaders must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs or aircraft in a manner that meet the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

## User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately after handling this product.
- Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## First Aid

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**Hot Line Number:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 day or night, for emergency treatment information.

## Environmental Hazards

This product is toxic to fish and highly toxic to other aquatic organisms including oysters and shrimp. Use with care when applying to turf areas adjacent to any body of water. Drift and runoff from treated turf may adversely affect aquatic organisms in adjacent aquatic sites. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

## Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

### REFORMULATION OF THIS PRODUCT IS PROHIBITED.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

## Agricultural Use Requirements:

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

### Agricultural Use Requirements: (Cont.)

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.  
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

### Non-Agricultural Use Requirements:

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

- **Keep unprotected persons out of treated area until sprays have dried.**

### Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.  
**Pesticide Storage:** Store this product only in its original container in a dry, cool, secured storage area. Store this product above 32°F.  
**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.  
**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

### Product Information

Dimension® Ultra 40WP specialty herbicide provides control of crabgrass and other annual grasses and broadleaf weeds in established lawns, commercial sod farms, ornamental and sports turf, sport fields, golf course fairways, roughs, tee boxes, unimproved turfgrass areas, container-grown ornamentals, field-grown ornamentals, landscape ornamentals, non-cropland (see list above), natural areas and Christmas trees.

This product will not control established weeds, except for crabgrass in early stages of growth. For optimum control, applications of this product should be made preemergence (prior to germination of target weeds).

This product is most effective when activated by 1/2 inch or more of rainfall or irrigation. To optimize control, ensure that activation has occurred prior to germination of most grass and broadleaf weeds.

**Chemigation:** Do not apply this product through any type of irrigation system.

### Mixing Directions

**Handling of Water Soluble Pouches:** The enclosed pouches are water soluble. Do not allow pouches to become wet prior to adding to the spray tank. Do not handle the pouches with wet hands or wet gloves. Always reseal over-wrap bag to protect remaining unused pouches. Do not remove water-soluble pouches from over-wrap except to add directly to the spray tank.

#### Dimension Ultra 40WP Alone with Water as the Carrier:

Be sure the sprayer is clean and not contaminated with other materials prior to use. Place a 20 to 35 mesh screen or wetting basket over the filling port. Fill the mixing tank 1/2 to 3/4 full with clean water and begin agitation. Be certain that the agitation system is working properly and creates a rolling or rippling on the liquid surface. Turn off the agitator and add the required number of unopened Dimension Ultra 40 water soluble packets to the tank. Be careful not to drop on top of each other. Wait 5 to 10 minutes to allow the packets to thoroughly dissolve before turning on the agitation, or adding any additional materials to the tank. Continue filling tank with the remainder of the water. Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the water source. Resume agitation and maintain agitation of spray mixture during application to ensure uniformity of spray mixture and prevent settling.

#### Dimension Ultra 40WP Alone with Liquid Fertilizer as the Carrier

First, determine the compatibility of this product with the desired liquid fertilizer by mixing small proportional quantities in advance. Follow instructions in the "Physical Compatibility Test" section of this label. Then follow the mixing procedure listed below for tank mixtures.

#### Tank Mixtures

Dimension Ultra 40WP may be applied in tank mix combination with labeled rates of liquid fertilizers or other herbicides, such as but not

limited to Gallery, Defendor and Accord XRT II, provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Note:** Dimension Ultra 40WP is compatible with boron and spray oils; however, the water soluble pouches must be completely dissolved before adding spray oils or products containing boron to spray mixtures.

#### Mixing Procedure:

1. Place a 20 to 35 mesh screen or wetting basket over the filling port.
2. Fill the previously cleaned sprayer half full with the appropriate carrier and start agitation. -
3. Add a compatibility agent if needed. Read and follow all of the information found on the product label for the selected compatibility agent. Check that agitation is working properly and creates a rolling or rippling on the liquid surface. .
4. Add Dimension Ultra 40WP to the tank (be careful not to drop pouches on top of each other) and allow sufficient time for the water-soluble pouches to dissolve and contents to mix completely before adding other materials.
5. Wait 5 to 10 minutes to allow the packets to thoroughly dissolve before turning on the agitation, or adding any additional materials to the tank.
6. Resume agitation.
7. Add any other wettable powder or dry flowable formulation. **When mixing this product or any other wettable powder or dry flowable product with liquid fertilizer, premix with water to form a slurry and then add slowly to the mixing tank.**
8. If a flowable pesticide formulation is used, premix with one part water, and add **slowly** to tank.
9. Add emulsifiable concentrate pesticide formulations to the tank.
10. Add water-soluble liquid pesticide formulations followed by surfactants, marker dyes or foams, or drift control additives while continuing the filling process.

Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source. Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, agitate thoroughly to re-suspend the mixture before resuming spraying.

#### Physical Compatibility Test

Before mixing this product with liquid fertilizers and/or other pesticides, it is recommended that the compatibility of the tank mixture be tested by mixing proportionate amounts of each component in a small glass jar according to the following instructions:

#### Compatibility Test Mixing Instructions

Pesticide Formulation	If	Amount of Pesticide added to Spray Carrier (assuming volume is 25 GPA) ADD:
	Rate per Acre Is:	Level Teaspoons per Pint Jar of Carrier Solution
Dry	1 lb	1-1/2
Liquid	1 qt	1

#### This compatibility test is designed for 25 gallons of spray solution

**per acre.** The table above gives general guidelines for use rate ratios of pesticides to be tank-mixed with this product. Determine the amount of pesticide to tank-mix by referring to the pesticide label(s). Then, calculate the amount of pesticide to add to jar based on use rate ratios in table. For a use rate of 1 pound per acre of dry pesticide add 1-1/2 teaspoons to the jar, and for a use rate of 1 quart per acre of liquid pesticide, add 1 teaspoon to the jar. This product should be added based on use rate ratios for liquid pesticides (for a use rate of 1 quart per acre, add 1 teaspoon to the jar). For changes in spray volume or herbicide rate, make appropriate changes in the ingredients for the test. Shake well to mix.

If pesticide(s) does not form crystals, flakes, sludge, gels, oily films or layers, then the tested components are compatible. Incompatibility in any of the above-described forms will usually occur within 5 minutes after mixing.

If components are incompatible, the use of a compatibility agent is recommended. Repeat the above compatibility test with a suitable compatibility agent (one-half teaspoon per pint jar is equivalent to 2 pints per 100 gallons of spray solution). Do not use mixtures that show incompatible signs such as formation of crystals, flakes, sludge, gels, oil films or layers.

## Grass and Broadleaf Weeds Controlled by Dimension Ultra 40WP

Used as directed, Dimension Ultra 40WP controls annual grass and broadleaf weeds listed in the table below if applied preemergence. This product will not control emerged broadleaf weeds or grasses, except for crabgrass in early stages of growth.

### Grasses

barley	<i>Hordeum</i> spp.
barnyardgrass	<i>Echinochloa crus-galli</i>
bluegrass, annual	<i>Poa annua</i>
brome	<i>Bromus</i> spp.
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crabgrass, southern	<i>Digitaria ciliaris</i>
crowfootgrass	<i>Dactyloctenium aegyptium</i>
dallisgrass (seedling)	<i>Paspalum dilatatum</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green	<i>Setaria verti</i>
foxtail, yellow	<i>Setaria pumilia</i>
goosegrass	<i>Eleusine indica</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
Mary's grass	<i>Microstegium vimineum</i>
(Japanese stiltgrass) ( <i>Trin.</i> ) A.	<i>Camus var. imberbe</i>
oats, wild	<i>Avena fatua</i>
ryegrass	<i>Lolium</i> spp.
(annual & perennial)	
sandbur	<i>Cenchrus</i> spp.
smutgrass	<i>Sporobolus indicus</i>
southwestern cupgrass	<i>Eriochloa gracilis</i>

### Broadleaf Weeds

bittercress	<i>Cardamine</i> spp.
carpetweed	<i>Mollugo verticillata</i>
chickweed	<i>Stellaria</i> spp.
dandelion, common	<i>Taraxacum officinale</i>
geranium, Carolina	<i>Geranium carolinianum</i>
henbit	<i>Lamium</i> spp.
knotweed, prostrate	<i>Polygonum aviculare</i>
lespedeza, common	<i>Lespedeza striata</i>
marestail	<i>Conyza canadensis</i>
medic, black	<i>Medicago lupulina</i>
mulberry weed	<i>Fatoua villosa</i>
mustard	<i>Brassica</i> spp.
oxalis, buttercup	<i>Oxalis pes-caprae</i>
parsley-piert	<i>Alchemilla arvensis</i>
pigweed, redroot	<i>Amaranthus retroflexus</i>
pineappleweed	<i>Matricaria matricarioides</i>
purslane, common	<i>Portulaca oleracea</i>
rocket, London	<i>Sisymbrium irio</i>
shepherdspurse	<i>Capsella bursa-pastoris</i>
sowthistle	<i>Sonchus oleraceus</i>
speedwell, corn	<i>Veronica arvensis</i>
spurge, garden	<i>Euphorbia hirta</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
spurge, spotted	<i>Euphorbia maculata</i>
willowherb	<i>Epilobium</i> spp.
woodsorrel, creeping	<i>Oxalis corniculata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

## Uses

### Weed Resistance Management

Dithiopyr, the active ingredient in this product, is a Group 3 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain or develop plants resistant to Group 3 herbicides. Resistant weeds may dominate the weed population if these herbicides are used repeatedly in the same field. Such resistant weed plants may not be effectively managed using Group 3 herbicides but may be effectively managed utilizing other herbicides alone or in mixtures from a different herbicide Groups that are labeled for control of these weeds and/or by using cultural or mechanical practices. However, a herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your local company representative, state cooperative extension service, professional consultants or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

### Best Management Practices

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistant weeds. Scouting after a herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant weed populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in reducing the spread of resistant weed seed.

### Turfgrass

Use Dimension Ultra 40WP on seeded, sodded, or sprigged lawns, ornamental turfs and unimproved turfgrass that are well-established. Newly established turf must have developed a good root system and a uniform stand, and have received at least two mowings following seeding, sodding, or sprigging before making the first application of this product. Note precautions below for sodding. Use of this product on turf that is not well-established, or has been weakened by weather, pest, disease, chemical, mechanical or other related stress, may result in turf injury.

#### Use Precautions:

- Dimension Ultra 40WP will prevent the germination of annual bluegrass. Dimension Ultra 40WP will not affect established annual bluegrass. If maintenance of annual bluegrass is desired, using this product during the time of annual bluegrass germination is not recommended. In the states of AZ, CA, NV, OR, WA, NM, ID, MT and UT, Dimension Ultra 40WP may contribute to the thinning or stand reduction in established stands of annual bluegrass.
- To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
- For best results, cultural practices that disturb the soil, such as verticutting and core-, spike-, or hydro-aerification, should be done before applying this product.

#### Use Restrictions:

- Do not apply this product to golf course putting greens.
- Do not harvest sod before 3 months after an application.
- Do not apply this product until the turfgrass has recovered from cultural practices such as verticutting or core-, spike-, or hydro-aerification.
- Do not use clippings from treated turf for mulching around vegetables or fruit trees.
- Do not apply this product through any type of irrigation system.
- **Do not** apply more than 0.5 pound active ingredient per acre per application. This is equivalent to 4 water-soluble pouches per acre or 0.46 oz/1000 sq ft (1.25 lb/acre of product) per application.
- **Do not apply** more than 1.5 pound active ingredient per year using sequential applications. This is equivalent to 12 water-soluble pouches per acre or 1.38 oz/1000 sq ft (3.75 lb/acre of product) per year.
- Do not graze livestock or feed foliage cut from areas treated with this product within 365 days of treatment.
- **In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).**

#### Reseeding, Overseeding, or Sprigging

Reseeding, overseeding or sprigging of treated areas within 3 months after a single application of this product, or within 4 months after a sequential application program totaling more than 0.5 lb ai/acre per application (equivalent to 4 water-soluble pouches per acre or 0.46 oz/1000 sq ft or 1.25 pounds product per acre) may inhibit the establishment of desirable turfgrasses. However, overseeding of bermudagrass with perennial ryegrass 8 weeks after an application or as early as 6 weeks after application if slight injury to perennial ryegrass can be tolerated is a recommended exception.

When reseeding or overseeding, proper cultural practices such as soil cultivation, irrigation and fertilization should be followed. For best results, use mechanical or power seeding equipment (slit seeders) designed to give good seed to soil contact.



## Tolerant Turfgrass

**Dimension Ultra 40WP should only be applied to the following turfgrass species which are tolerant to this product.**

### Established Cool-Season Turfgrasses

Common Name	Scientific Name
bentgrass, creeping†	<i>Agrostis palustris</i>
bluegrass, Kentucky	<i>Poa pratensis</i>
fescue, fine††	<i>Festuca rubra</i>
fescue, tall	<i>Festuca arundinacea</i>
ryegrass, perennial	<i>Lolium perenne</i>

### Established WarmSeason Grasses

Common Name	Scientific Name
bahiagrass	<i>Paspalum notatum</i>
bermudagrass†††	<i>Cynodon dactylon</i>
buffalograss††††	<i>Buchloe dactyloides</i>
carpetgrass	<i>Axonopus affinis</i>
centipedegrass	<i>Eremochloa ophiuroides</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
seashore paspalum	<i>Paspalum vaginatum</i>
St. Augustinegrass	<i>Stenotaphrum secundatum</i>
zoysiagrass	<i>Zoysia japonica</i>

† Do not use this product on certain varieties of creeping bentgrass, such as 'Cohansey', 'Carmen', 'Seaside', and 'Washington' as undesirable turfgrass injury may result. Not all varieties of creeping bentgrass have been tested.

**Do not** apply this product to colonial bentgrass (*Agrostis tenuis*) varieties.

†† Do not use this product on certain varieties of fine fescue as use may result in undesirable turf injury. The following fine fescue varieties have been found to be sensitive to this product: 'Atlanta', 'Banner', 'Beauty', 'Bilgart', 'CF-2', 'Enjoy', 'HF-93', 'Highlight', 'Ivalo', 'Jamestown', 'Koket', 'Majenta', 'Mary', 'Pennlawn', 'Tamara', 'Tatjana', 'Waldorf', and 'Waldina'. Not all varieties of fine fescue have been tested.

††† Do not use this product on 'Tifgreen' (328) hybrid bermudagrass as use may result in undesirable turfgrass injury. Other common and hybrid Bermudagrass varieties are tolerant

†††† **Do not** use this product on seedling buffalograss in the spring of the first year of establishment until the turfgrass is fully green and has established new roots.

## Application Directions

Apply Dimension Ultra 40WP through conventional liquid application equipment in a minimum of 20 gallons of water per acre (0.5 gallons per 1000 sq. ft.). Apply with equipment that provides a uniform spray distribution. A hand held spray gun may be used. Calibrate application equipment prior to usage. Avoid streaking, skips, or excess overlaps during application. The use of marker dyes or foams aids in making more accurate applications.

## Preemergence Application Rates, Frequency and Timing

For preemergence grass and broadleaf weed control, apply Dimension Ultra 40WP as single or sequential application at 2 to 4 water-soluble pouches (0.25 to 0.5 pound active ingredient) per acre. Applicators may choose to make a single application or sequential applications of 2 to 4 pouches per acre at 5 to 10 week intervals based on one or more of the factors listed below.

- Length of residual weed control desired
- Height of turf (lower cut turf may require use of the higher labeled rate)
- History and success of weed control at the application site (the higher labeled application rates should be used if herbicide treatment history is unknown or weed control was poor with previous applications)
- Exposure to high temperatures and heavy rainfall or irrigation (this will shorten the residual preemergence performance)
- On turf sites adjacent to hard surfaces such as driveways, sidewalks and parking lots where residual activity may be reduced
- Some target weed species (such as but not limited to *Poa annua*, goosegrass and sandbur) will require use of the higher labeled rates

## Postemergence Crabgrass Control

This product provides both preemergence and postemergence control of crabgrass (including large, smooth, and southern species) in established lawns and ornamental turf. This product provides postemergence control of crabgrass through the 3 to 5 tiller stage of growth dependent upon location. The addition of a nonionic surfactant at a minimum of 0.25% v/v (2 pt per 100 gallons of spray) is recommended to improve

postemergence control past the 5 leaf stage of growth. Read and follow the surfactant manufacturer's label recommendations. Postemergence control of this product can be improved by mowing turfgrass no sooner than two days prior and two days after application.

When applied at 4 water-soluble pouches (0.5 pound active ingredient) per acre this product has demonstrated postemergent crabgrass control through the 3 to 5 tiller stage of growth in the western, southern and transition regions where warm-season turfgrasses are the predominate species.

In regions where cool-season turfgrasses are the predominant species, early postemergence crabgrass control is obtained when this product is applied prior to tiller initiation of crabgrass (less than 5 leaves per plant), which generally corresponds to the time when crabgrass seedlings are easily observed in lawn or turf.

For preemergence residual control of crabgrass, apply at least 0.5 inch of water after application; but in order to optimize postemergence control delay irrigation for 6 hours after application.

## *Poa annua* (annual bluegrass) Control

Apply Dimension Ultra 40WP for preemergence control of *Poa annua* (annual bluegrass) at a rate of 3 to 4 water-soluble pouches (0.38 to 0.5 pound active ingredient) per acre.

- Apply 6 to 8 weeks before overseeding perennial ryegrass into bermudagrass. This is specific to perennial ryegrass; not recommended for *Poa trivialis* or bentgrass.
- Minimum seeding rate of perennial ryegrass is 400 lbs per acre.
- Use limited to fairways and roughs.
- Perennial varieties of *Poa annua* (var. repens) may not be controlled as well as the true annual variety.
- Do not apply earlier than 16 weeks after over-seeding unless injury to the ryegrass can be tolerated.
- A follow-up treatment 16 weeks after overseeding offers an early season crabgrass treatment and helps suppress some winter annual broadleaf weeds.

## Goosegrass Control

For best results, apply Dimension Ultra 40WP at 4 water-soluble pouches (0.5 pound active ingredient) per acre just prior to goosegrass germination. Base the application timing on local experience or soil temperatures. If targeting both crabgrass and goosegrass, a single application applied at preemergence crabgrass timing may not be adequate. When targeting both crabgrass and goosegrass it is best to make sequential applications. Based on past experience and crabgrass pressure, a lower rate may be used for the first application with the sequential application being made at 4 water-soluble pouches per acre.

## Use Directions for Noncropland and Natural Areas

Apply Dimension Ultra 40WP for preemergence control of listed annual grasses and broadleaf weeds in non-crop land (see listing above) and natural areas as a single or sequential application.

Apply Dimension Ultra 40WP prior to germination of target weeds or to bare ground. The best weed control is obtained when applications are made preemergence and to soil that is free of clods, weeds and debris such as leaves. For total vegetation control tank mixing this product with herbicides such as Accord XRT II, Opensight or Milestone is necessary.

To be effective, Dimension Ultra 40WP must be activated by 0.5 inch or more of rainfall or irrigation prior to germination of target weeds. Once the treatment is activated, avoid excessive soil disruption such as grading roadsides that may break down the herbicide barrier. Minimal surface disruption such as raking should not break down the herbicide barrier.

### Use Precautions:

- For ornamentals within non-crop areas, apply only after transplanting when soil around roots has been thoroughly settled by rainfall or irrigation and no cracks are present, and only to plants listed in the Tolerant Ornamental section of this label, or injury may result.
- Sequential applications may be made on 3 to 4 month intervals for extended preemergence weed control.

### Use Restrictions:

- Do not apply when weather conditions favor drift to non-target areas. This product may injure foliage of non-target plants.
- Do not graze livestock or feed forage cut from areas treated with this product within 365 days of treatment.
- Do not exceed maximum use rates per year.
- **In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).**

Equivalent Application Rates:

Equivalent Rates of Dimension Ultra 40WP				
(lb active ingredient per acre)	(water-soluble pouches per acre)	(oz product/1000 sq ft)	(oz product/100 sq ft)	(gm product/100 sq ft)
0.5	4	0.46	0.046	1.3

**Use Directions For Ornamentals  
(Landscape, Field Grown, and Container Grown)  
and Christmas Trees**

Dimension® Ultra 40WP specialty herbicide provides preemergence control of listed annual grass and broadleaf weeds in areas planted with tolerant ornamental plants listed on this label. It is intended for use on plants being grown for aesthetic purposes in landscaped areas, in container or field grown production nurseries or in Christmas tree production. When applied as directed, the ornamental plants listed on this label have shown tolerance to applications of Dimension Ultra 40WP herbicide.

**Use Precautions:**

- Apply Dimension Ultra 40WP to established ornamentals only.
- Applications of Dimension Ultra 40WP over-the-top of plants with newly forming buds may cause injury. Possible plant injury may be avoided by application as a directed spray to the soil surface beneath ornamental plant foliage.
- Injury may be incurred if Dimension Ultra 40WP is applied in the following manner. Grower assumes all risk if Dimension Ultra 40WP is applied to:
  - o Unrooted liners or cuttings that have been planted in pots for the first time
  - o Pots less than six inches wide

**Use Restrictions:**

- Do not apply this product to bare roots of ornamental plants as injury may result.
- Do not incorporate this product into the soil. Dilution of active ingredient and possible injury to plant roots may occur.
- Do not apply around ornamental plants that have been weakened or are under stress (due to drought, flooding, excessive fertilizer or soil salts, wind injury, hail, frost damage, winter injury, injury from previously applied pesticides or injury due to insects, heat stress, nematodes or diseases).
- Do not apply when weather conditions favor drift to non-target areas. This product may injure foliage of non-target plants unless they are listed on this label.
- Do not apply this product directly to plants that are grown for food (e.g., fruit trees or maple trees tapped for syrup).
- Do not apply this product in enclosed structures and greenhouses.
- Do not apply this product to grasses grown for seed.
- Do not graze livestock or feed forage cut from areas treated with this product within 365 days of treatment.
- **Do not** apply more than 0.5 pound active ingredient per acre per application or more than 1.5 pound active ingredient per acre per year. This is equivalent to 4 water-soluble pouches per acre or 0.46 oz/1000 sq ft (1.25 lb/acre) per application, and 12 water-soluble pouches per acre or 1.375 oz/1000 sq ft (3.75 lb/acre) per year
- **In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).**

**Shadehouse Areas**

Dimension Ultra 40WP may be applied in open shadehouse-type structures where the natural flow of air is unimpeded. Do not apply within three weeks prior to enclosing greenhouses or poly-type structures.

**Chemigation:** Do not apply through any type of irrigation system.

**Treatment of Ornamental Species Not Listed on the Label for Dimension Ultra 40WP:** It is impossible to evaluate tolerance to this product on all ornamental plant species or varieties or under all possible growing conditions. Users who wish to use Dimension Ultra 40WP on ornamental species not currently listed on this label may determine the suitability for use by treating a small number of ornamental plants at a recommended rate. Prior to treatment of larger areas, treated plants should be observed for any symptoms of herbicidal injury, such as foliar damage, reduced vigor or stand reduction, for 30 to 60 days of

normal growing conditions to determine if the treatment is acceptable to the grower. The user assumes the responsibility for any plant damage resulting from the use of Dimension Ultra 40WP on plant species not currently listed on this label as tolerant.

**Application Directions**

Apply Dimension Ultra 40WP as a directed spray or as a broadcast over-the-top spray to established ornamentals (see ornamental plant listing for acceptable application method). Make directed sprays to the soil at the base of the ornamentals.

To reduce injury potential:

- Apply to established ornamentals.
- Apply product with calibrated equipment using a minimum of 1 gallon of water per 1000 sq. ft.
- Shortly after application apply overhead irrigation to activate the herbicide and wash Dimension Ultra 40WP from plant surface onto soil surface.
- In the spring when buds are rapidly growing and expanding, over the top application of Dimension Ultra 40WP may temporarily injure new growth of desirable plants. To reduce the possibility of injury at this time, wait to apply Dimension Ultra 40WP over the top of newly emerged vegetation until it has hardened off, unless local experience indicates that the ornamental plant will not be injured by the over the top application.
- Do not apply to plants that are under stress such as heat, drought or frost damage.

Dimension Ultra 40WP is a preemergence herbicide that controls weeds during germination. Dimension Ultra 40WP does not control emerged broadleaf or grass weeds except crabgrass up to tiller initiation (up to 5 leaves per plant) in ornamental or bare ground settings. Apply prior to germination of target weeds. Optimum weed control is obtained when applications are made to soil that is free of clods, weeds and debris such as leaves. Prior to applying, control existing vegetation by cultivation, hand weeding, or use of a postemergence herbicide labeled for use in ornamentals. After applying Dimension Ultra 40WP, excessive soil disruption may breakdown the herbicide barrier. Minimal surface disruption such as raking should not break down the herbicide barrier once the product has been activated with moisture. Following transplanting, care must be taken that soil or planting mixes have settled firmly through irrigation, rainfall or packing and that there are no cracks that would allow direct contact of this product to the plant roots or plant injury may occur.

**Application Rates**

Apply Dimension Ultra 40WP prior to germination of target weed species. Make sequential applications at 3 to 4 month intervals for extended preemergence weed control. Do not exceed maximum use rates per year.

When treating a small area, apply Dimension Ultra 40WP with a calibrated sprayer that assures accurate, uniform spray distribution. In general, Dimension Ultra 40WP should be thoroughly mixed with water at 3 to 4 water-soluble pouches (0.34 to 0.46 oz of product per 1000 sq ft) per acre per application and applied at 20 to 40 psi in a minimum of 1 gallon of water per 1000 sq ft.

Equivalent Rates of Dimension Ultra 40WP			
(water-soluble pouches per acre)	(oz/1000 sq ft)	(oz/100 sq ft)	(gm/100 sq ft)
4	0.46	0.046	1.3

**Use Restrictions:**

- Do not apply more than 0.5 lb ai/acre per application or more than 1.5 lb. ai/acre per year using split or sequential applications.
- **In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).**

## Tolerant Ornamentals

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
abelia, dwarf ( <i>Abelia x grandiflora</i> )	nana grand surprise	x	x
acacia, redolens ( <i>Acacia redolens</i> )		x	x
abyssinian red banana ( <i>Ensete ventricosum</i> )	maurelii	x	x
Agave ( <i>Agave bovicornuta</i> ) ( <i>A. gypsophila</i> ) ( <i>A. victoriae-reginae</i> ) ( <i>A. vilmoriniana</i> )	blue glow Queen Victoria royal	x x x x	x x x x
Ajuga carpet bugle ( <i>Ajuga reptans</i> ) ( <i>Ajuga genevensis</i> )	bronze bronze beauty		x x
almond, flowering ( <i>Prunus gladiosa</i> )			x
apple† ( <i>Malus pumila</i> )			x
arborvitae ( <i>Thuja occidentalis</i> )	George Peabody nigra pyramidalis smaragh techny woodwardii	x	x x x x x
arborvitae, dwarf golden ( <i>Thuja orientalis</i> )	aurea nana	x	x
ash, green ( <i>Fraxinus pennsylvanica</i> )			x
ash, autumn purple ( <i>Fraxinus americana</i> )	autumn purple		x
aster, Chinese ( <i>Callistephus chinensis</i> )	dwarf queen		x
azalea ( <i>Rhododendron</i> spp.)	brilliant buccaneer carror chimes (Belgian) Elsie Lee exbury fashion Girard's crimson hardijzer beauty hershey red higasa hinocrimson high tide Holland (hybrid) Marion Lee northern lights orange cup orchid lights pink gumbo pride of Mobile snow southern charm	x	x x
azalea, flame ( <i>Rhododendron calendulaceum</i> )			x
azalea, Kurume or kirishima ( <i>Rhododendron obtusum</i> )	coral bells	x	x

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
bamboo, heavenly ( <i>Nandina domestica</i> )	compacta nana plum passion	x	x x x
banana shrub ( <i>Michelia figo</i> )		x	x
barberry, Japanese ( <i>Berberis thunbergii</i> )	Aurea crimson pygmy dwarf pygmy green kobold pygmy red rose glow	x	x x x x x x
barberry, purple ( <i>Berberis thunbergii</i> var atropurpurea)	atropurpurea		x
basket flower ( <i>Gaillardia grandiflora</i> )			x
beach grass ( <i>Ammophila breviligulata</i> )			x
bearberry (common) ( <i>Arctostaphylos uva-ursi</i> )	Massachusetts		x
bee balm ( <i>Monarda didyma</i> )			x
begonia ( <i>Begonia</i> spp.)			x
birch, river ( <i>Betula nigra</i> )	dura heat	x	x
birch, European white ( <i>Betula pendula</i> )			x
blackeyed Susan ( <i>Rudbeckia hirta</i> )	goldstrum		x
blanket flower ( <i>Gaillardia</i> spp.)			x
blood grass ( <i>Imperata cylindrica</i> )	rubra	x	x
blue fescue ( <i>Festuca ovina</i> )			x
bluebeard ( <i>Caryopteris x clandonensis</i> )	dark knight	x	x
blueberry† ( <i>Vaccinium</i> spp.)	bluecrop blue jay Jersey north blue northland		x x x x x
bottlebrush ( <i>Callistemon citrinus</i> )	Little John	x	x
bougainvillea ( <i>Bougainvillea spectabilis</i> )	James Walker pink dream purple queen rosenka Scarlet O' Hara	x x x x	x x x x
bower vine ( <i>Pandorea jasminoides</i> )	rosea	x	x
boxwood, green beauty ( <i>Buxus microphylla japonica</i> )	green beauty	x	x
boxwood, welleri ( <i>Buxus sempervirens</i> )	winter gem common boxwood	x x	x x
broom ( <i>Cytisus scoparius</i> ) ( <i>Genista pilosa</i> )	moonlight Vancouver gold		x x

## Tolerant Ornamentals (Cont.)

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
cactus ( <i>Echinocactus grusonii</i> )	golden barrel	x	x
camellia ( <i>Camellia japonica</i> )	debutante		x
( <i>Camellia sasanqua</i> )	mathotiana supreme chansonette setsukgekka	x x x	x x x
candytuft ( <i>Iberis sempervirens</i> )	snow white		x
carex, variegated ( <i>Carex spp.</i> )		x	x
carpet bugle ( <i>Ajuga reptans</i> )	bronze		x
( <i>Ajuga genevensis</i> )	bronze beauty		x
cedar, red ( <i>Juniperus virginiana</i> )			x
celosia ( <i>Celosia spp.</i> )			x
centaura ( <i>Centaurea montana</i> )			x
cherry tree† ( <i>Prunus x yedoensis</i> )	yoshino	x	x
Chinese pistache ( <i>Pistacia chinensis</i> )			x
chrysanthemum ( <i>Chrysanthemum sp.</i> )	mandarin time	x	x
cleyera ( <i>Cleyera japonica</i> )	Leann	x	x
clivia ( <i>Clivia miniata</i> )		x	x
cockscomb, plumosa ( <i>Celosia cristata</i> )	scarlet plumosa		x
coleus ( <i>Coleus blumei</i> )	red kewpie		x
columbine ( <i>Aquilegia spp.</i> )			x
coneflower, purple ( <i>Echinacea purpurea</i> )	magnus purple	x	x x
copper leaf ( <i>Acalypha wilkesiana</i> )			x
coreopsis ( <i>Coreopsis spp.</i> )	moonbeam		x
corn flower ( <i>Centaurea spp.</i> )			x
cotoneaster ( <i>Cotoneaster apiculatus</i> )			x
coyotebrush ( <i>Baccharis pilularis</i> )			x
cycad ( <i>Cycas revoluta</i> )			x
cypress, bald ( <i>Taxodium distichum</i> )		x	x
cypress, hinoki false ( <i>Chamaecyparis obtusa</i> )	gracilis torulosa	x	x x
cypress, Italian ( <i>Cupressus sempervirens</i> )	glauca tiny flower	x	x x

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
cypress, leyland ( <i>Cupressocyparis leylandii</i> ) hybrid		x	x
daffodil ( <i>Narcissus spp.</i> )	King Alfred		x
damianita ( <i>Chrisactinia mexicania</i> )			x
daylily ( <i>Hemerocallis spp.</i> )	Aztec gold bright yellow (hybrid) single gold (evergreen) Wilson's yellow		x x x x
dianthus ( <i>Dianthus spp.</i> )	sweet William firewatch	x	x x
( <i>Dianthus gratianopolitanus</i> )			
delphinium ( <i>Delphinium spp.</i> )	magic fountain		x
desert spoon ( <i>Dasylirion wheeleri</i> )		x	x
dogwood ( <i>Cornus florida</i> )			x
dogwood, American ( <i>Cornus sericea</i> )	flavarimea		x
Douglas fir ( <i>Pseudotsuga menziesii</i> )			x
dracaena ( <i>Cordyline indivisa</i> )		x	x
( <i>Cordyline australis</i> )		x	x
dusty miller ( <i>Senecio cineraria</i> )		x	x
elm ( <i>Ulmus parvifolia</i> )	drake		x
escallonia ( <i>Escallonia x exonienis</i> )	fradesi	x	x
Eulaliagrass/maiden grass ( <i>Miscanthus sinensis</i> )	gracillimus variegates morning light	x x x	x x x
euonymus ( <i>Euonymus fortuneis</i> )	Argenteo- variegata colorata colorata emerald gaiety emerald n' gold gold edge gold princess tricolor vegetus		x x x x x x x x x x x
( <i>Euonymus japonicus</i> )	Aureomarginata microphylla variegata	x	x x x
( <i>Euonymus kiatschovicus</i> )	"Moness" silver princess silver king Manhattan	x	x x x x
euryops, green leaved ( <i>Euryops pectinatus</i> )	viridis	x	x
fan palm, European ( <i>Chamaerops humilis</i> )			x
fan palm, Mexican ( <i>Washingtonia robusta</i> )			x



## Tolerant Ornamentals (Cont.)

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
fern (various) ( <i>Asparagus</i> spp.)			x
fescue ( <i>Festuca glauca</i> )			x
fescue, blue ( <i>Festuca cinerea</i> )	Elijah blue		x
fetterbush ( <i>Leucothoe fontanesiana</i> )	rainbow		x
figus ( <i>Ficus retusa</i> )	nitidia		x
fir fraser ( <i>Abies fraseri</i> )			x
fortnight lily ( <i>Moraea bicolor</i> )		x	x
Forsythia ( <i>Forsythia</i> x 'Arnold Dwarf') ( <i>Forsythia viridissima</i> ) ( <i>Forsythia xintermedia</i> ) ( <i>Forsythia</i> x 'Meadowlark')	arnold dwarf bronxensis dwarf lynwood gold meadowlark		x x x x
( <i>Forsythia x intermedia</i> )	spring glory	x	x
( <i>Forsythia suspensa</i> )	weeping		x
fountain grass, purple ( <i>Pennisetum setaceum</i> )	rubrum	x	x
fringe flower, Chinese ( <i>Loropetalum chinense</i> )	ruby purple diamond	x	x
fuchsia ( <i>Fuchsia</i> spp.)			x
galium ( <i>Galium odoratum</i> )			x
gardenia ( <i>Gardenia jasminoides</i> )	August beauty Frost proof mystery radicans veitchii white gem	x x x x x x	x x x x x x
( <i>Gardenia thunbergia</i> )			
Garlic, variegated society ( <i>Thulbaghia violacea</i> )	variegata	x	x
gayfeather ( <i>Liatris spicata</i> )	floristan violet	x	x
gazania ( <i>Gazania rigens leucolaena</i> )	trailing gazania	x	x
geranium ( <i>Pelargonium x hortorum</i> )			x
globe thistle ( <i>Echinops ritro</i> )		x	x
gum ( <i>Eucalyptus citriodora</i> )			x
hawthorn ( <i>Crataegus</i> spp.)	cockspur white crimson cloud enchantress Jack Evans Washington white		x x x x x
hawthorn, Indian ( <i>Rhaphiolepis indica</i> )	Ballerina enchantress	x x	x x

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
heather, twisted ( <i>Erica cinerea</i> )	Mediterranean pink		x
heliotrope ( <i>Heliotropum arborescens</i> )	Iowa		x
hemlock, Canada ( <i>Tsuga canadensis</i> )			x
hibiscus ( <i>Hibiscus</i> spp.) ( <i>Hibiscus rosa-sinensis</i> )	blue bird brilliant hula girl Seminole pink		x x x x
holly ( <i>Ilex</i> x 'Nellie R. Stevens') ( <i>Ilex</i> x <i>attenuata</i> )	Nellie R. Stevens fosteri Savannah	x	x x x
holly, blue ( <i>Ilex</i> x <i>meserveae</i> )	blue boy blue girl China girl		x x x
holly, cassine ( <i>Ilex cassine</i> )		x	x
holly, Chinese ( <i>Ilex cornuta</i> )	Burfordii Carissa needlepoint	x x x	x x x
holly, Japanese ( <i>Ilex crenata</i> )	compacta hellerie Japanese northern beauty sky pencil steeds	x x x	x x x x x
holly, yaupon ( <i>Ilex vomitoria</i> )		x	x
honeysuckle ( <i>Lonicera xylosteum</i> ) ( <i>Lonicera japonica</i> ) ( <i>Lonicera tatarica</i> ) ( <i>Lonicera x brownii</i> )	Claveyi dwarf halliana Canadian white Zabelli dropmore scarlet		x x x x x
hop bush, purple ( <i>Dodonea viscosa</i> )	purpurea	x	x
hosta ( <i>Hosta sieboldii</i> ) ( <i>Hosta lancifolia</i> )	albo marginata		x x
ice plant ( <i>Carpobrotus edulis</i> )		x	x
ice plant, rosea ( <i>Drosanthemum floribundum</i> )		x	x
ice plant, white trailing ( <i>Delosperma alba</i> )		x	x
ice plant, purple ( <i>Lampranthus productus</i> )		x	x
ice plant, red spike ( <i>Cephalophyllum alstonii</i> )		x	x
impatiens ( <i>Impatiens</i> spp.) ( <i>I. balsamina</i> )		x	x x
iris ( <i>Iris</i> spp.)	dwarf blue wedgewood		x x
ivy, English ( <i>Hedera helix</i> )	Bulgaria thorndale		x x
jasmine, Asiatic ( <i>Trachelospermum asiaticum</i> )		x	x
jasmine, star ( <i>Trachelospermum jasminoides</i> )			x





## Tolerant Ornamentals (Cont.)

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
oak, laurel ( <i>Quercus laurifolia</i> )		x	x
oak, pin ( <i>Quercus palustris</i> )			x
oak, red ( <i>Quercus rubra</i> )			x
oak, shumard ( <i>Quercus shumardii</i> )		x	x
oak, southern ( <i>Quercus virginiana</i> )			x
oak, willow ( <i>Quercus phellos</i> )		x	x
oleander ( <i>Nerium oleander</i> )	hardy red Mrs. Roeding petite pink Sister Agnes	x	x x x x
oleaster hedge ( <i>Elaeagnus X ebbengi</i> )		x	x
orange, jessamine† ( <i>Murraya paniculata</i> )		x	x
osmanthus ( <i>Osmanthus fragens</i> )		x	x
osmanthus, holly leaf ( <i>Osmanthus heterophyllus</i> )	goshiki	x	x
osteospermum ( <i>Osteospermum fruticosum</i> )	whirligig		x
pachysandra ( <i>Pachysandra terminalis</i> )			x
palm, bangalow ( <i>Archontophoenix cunninghamiana</i> )			x
palm, bismark ( <i>Bismarckia nobilis</i> )			x
palm, California fan ( <i>Washingtonia filifera</i> )		x	x
palm, cardboard ( <i>Zamia furfuracea</i> )		x	x
palm, majesty ( <i>Ravenea rivularis</i> )		x	x
palm, paurotis ( <i>Acoelorrhaphe wrightii</i> )		x	x
palm, pindo 'blue' ( <i>Butia capitata</i> )		x	x
palm, queen ( <i>Syagrus romanzoffianum</i> )		x	x
pampas grass ( <i>Cortaderia selloana</i> )	ivory feathers	x	x x
pansy ( <i>Viola x wittrockiana</i> )			x
paper flower ( <i>Bougainvillea glabra</i> )	Barbara Karst	x	x
peach† ( <i>Prunus persica</i> )			x
pepper tree, California ( <i>Schinus molle</i> )		x	x
periwinkle, dwarf ( <i>Vinca minor</i> )			x
petunia ( <i>Petunia x hybrida</i> )	picoti	x	x

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
philodendron, tree ( <i>Philodendron selloum</i> )		x	x
photinia, red tip ( <i>Photinia x fraseri</i> )			x
pieris ( <i>Pieris taiwanensis</i> )			x
pieris, Japanese ( <i>Pieris japonica</i> )	mountain fire	x	x
pine, Afghan ( <i>Pinus eldarica</i> )		x	x
pine, aleppo ( <i>Pinus halapensis</i> )		x	x
pine, Austrian black ( <i>Pinus nigra</i> )		x	x
pine, Canary Island ( <i>Pinus canariensis</i> )		x	x
pine, Japanese black ( <i>Pinus thunbergia</i> )		x	x
pine, loblolly ( <i>Pinus taeda</i> )		x	x
pine, longleaf ( <i>Pinus palustris</i> )			x
pine, mugo or Swiss Mt. ( <i>Pinus mugo</i> )			x
pine, Scotch ( <i>Pinus sylvestris</i> )			x
pine, slash ( <i>Pinus elliotii</i> )			x
pine, Virginia ( <i>Pinus virginiana</i> )			x
pine, white ( <i>Pinus strobus</i> )		x	x
pineapple, guava† ( <i>Feijoa sellowiana</i> )			x
pittosporum ( <i>Pittosporum tobira</i> )	golf ball shimi crème de menthe Wheeler's dwarf	x x x	x x x
plum, purple† ( <i>Prunus cistena</i> )			x
plumbago, cape ( <i>Plumbago auriculata</i> )	royal cape	x	x
plume grass ( <i>Erianthus ravennae</i> )		x	x
Podocarpus ( <i>Podocarpus henkelii</i> )	yellowwood	x	x
potentilla ( <i>Potentilla fruticosa</i> ) ( <i>Potentilla nepalensis</i> )	abbotswood		x x
privet ( <i>Ligustrum x vicaryii</i> ) ( <i>Ligustrum japonicum</i> )	golden vicary regal texanum yellow tipped	x	x x x
privet, glossy ( <i>Ligustrum lucidum</i> )		x	x
Pyracantha or firethorn ( <i>Pyracantha x 'Gnome'</i> ) ( <i>Pyracantha coccinea</i> ) ( <i>Pyracantha koidzumii</i> )	gnome lalandei victory	x	x x x
queen palm ( <i>Arecastrum rammanzoffianum</i> )			x
quince, Japanese† ( <i>Chaenomeles japonica</i> )			x

## Tolerant Ornamentals (Cont.)

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
red hot poker ( <i>Kniphofia uvaria</i> )	flamenco	x	x
redbud, eastern ( <i>Cercis canadensis</i> )			x
redwood, coast ( <i>Sequoia sempervirens</i> )		x	x
Rhododendron ( <i>Rhododendron spp</i> )	album Cunningham white PJM purple gem silvery pink		x x x x x
rhododendron, Carolina ( <i>Rhododendron carolinianum</i> )			x
rhododendron, catawba ( <i>Rhododendron catawbiense</i> )			x
rhododendron, rhodie max – rosebay ( <i>Rhododendron maximum</i> )			x
ribbon grass ( <i>Phalaris arundinacea</i> )			x
rockcress ( <i>Arabis caucasica</i> )	snowcap		x
rose† ( <i>Rosa banksiae</i> )	luta		x
rose, groundcover ( <i>Rosa x Noare</i> ) ( <i>Rosa x Noaschnee</i> ) ( <i>Rosa x Noatrum</i> )	flower carpet red flower carpet white flower carpet pink	x x x	x x x
rose, knockout shrub ( <i>Rosa spp. hybrid</i> )	knockout	x	x
rose, rock ( <i>Cistus purpureus</i> )	'brilliancy'	x	x
rosemary† ( <i>Rosmarinus officinalis</i> )			x
rosemary, bog ( <i>Andromeda polifolia</i> )	nana		x
salvia ( <i>Salvia farinacea</i> )	rhea		x
sedge, leather leaf ( <i>Carex buchananii</i> )		x	x
sedum ( <i>Sedum spurium</i> )	dragon blood red red carpet yellow		x x x
Senecio ( <i>Senecio kleinia</i> )		x	x
silk tree ( <i>Albizia julibrissin</i> )		x	x
smoketree ( <i>Cotinus coggyria obovatus</i> )	Grace	x	x
smoketree, royal purple ( <i>Cotinus coggyria</i> )	royal purple		x
snapdragon ( <i>Antirrhinum spp.</i> )			x
snow-in-summer ( <i>Cerastium tomentosum</i> )		x	x
snowball, common ( <i>Viburnum opulus</i> )	sterile	x	x
sourwood ( <i>Oxydendrum arboreum</i> )			x

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
spiraea ( <i>Astilbe X arendsii</i> )	fanall		x
spiraea ( <i>Spiraea X vanhouttei</i> )	bridal wreath spiraea	x	x
spiraea ( <i>Spiraea spp.</i> )	Anthony Waterer red dolchica froebeli pink goldenflame red snowmound white		x x x x x
spiraea, garland ( <i>Spiraea x arguta</i> ) .)			x
spruce, Black Hills ( <i>Picea glauca var densata</i> )			x
spruce, Colorado blue ( <i>Picea pungens</i> )	glauca	x	x
spruce, dwarf Alberta ( <i>Picea glauca v. albertiana</i> )	conica	x	x
spruce, Norway ( <i>Picea abies</i> )			x
spruce, white ( <i>Picea glauca</i> )	conica		x
spurge, Japanese ( <i>Pachysandra terminalis</i> )	green sheen	x	x
sweet bay ( <i>Laurus nobilis</i> )			x
sweetflag ( <i>Acorus calamus</i> ) ( <i>A. gramineus</i> )	ogon	x	x x
sweetgum ( <i>Liquidambar styraciflua</i> )			x
sweet olive ( <i>Osmanthus fragrans</i> )			x
sycamore ( <i>Platanus occidentalis</i> ) <i>P. racemosa</i>	American California	x	x x
tea tree, New Zealand ( <i>Leptospermum scoparium</i> )	ruby glow martini	x x	x x
tree fern (tiki fern) ( <i>Asparagus virgatus</i> )			x
trumpet flower or Carolina Jessamine ( <i>Gelsemium sempervirens</i> )			x
tulip ( <i>Tulip spp</i> )	apeldoorn		x
tufted hairgrass ( <i>Deschampsia caespitosa</i> )			x
verbena, shrub ( <i>Lantana sellowiana</i> )			x
Verbena, St. Paul's ( <i>Verbena peruviana.</i> )	St. Paul		x
viburnum ( <i>Viburnum spp.</i> )	American cranberry bush arrowood European cranberry bush linden Mohican wright		x x x x x x x
vinca (periwinkle) ( <i>Vinca minor</i> )			x
weigela ( <i>Weigela florida</i> )	java red	x	x

## Tolerant Ornamentals (Cont.)

When applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance when grown in container, field, and landscape settings.

Name	Tolerant Cultivars	Acceptable Application Method Noted by a (X)	
		Over the Top	Directed
windmill palm ( <i>Trachycarpus fortunei</i> )			x
wisteria, Japanese ( <i>Wisteria floribunda</i> )	Texas purple	x	x
xylosma ( <i>Xylosma congestum</i> )			x
yarrow ( <i>Achillea</i> spp.)			x
yaupon ( <i>Ilex vomitoria</i> )	dwarf		x
yellow bells ( <i>Tecoma stans</i> )		x	x
yesterday-today-and-tomorrow ( <i>Brunfelsia pauciflora</i> )	floribunda	x	x
yew ( <i>Taxus cuspidata</i> ) ( <i>Taxus x media</i> )	capitata denisiformis	x	x x
yucaa, red ( <i>Hesperaloe parvifolia</i> )		x	x

†Ornamental species only. Do not use on food-producing trees and plants.

### Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

### Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

### Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

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**Produced for**  
**Dow AgroSciences LLC**  
**9330 Zionsville Road**  
**Indianapolis, IN 46268**

Label Code: D02-164-006  
 Replaces Label: D02-164-005  
 LOES Number: 010-01573

EPA accepted 04/18/17

### Revisions:

1. Updated use sites section and product information section.
2. Updated language for New York State restriction section.
3. Added crop group information and MOA/Resistance Management language.
4. Added "clothing" to second bullet point under User Safety Recommendations section.
5. Updated Storage and Disposal section.
6. Deleted "OR REPACKAGING" from REFORMULATION OR REPACKAGING OF THIS PRODUCT IS PROHIBITED UNDER Directions for Use section.
7. Change title for General Information to Product Information and updated section.
8. Change title for Mixing Instructions to Mixing Directions.
9. Change fluid fertilizer to liquid fertilizer throughout the label.
10. Updated Tank Mixtures section.
11. Updated language under Grass and Broadleaf Weeds Controlled by Dimension Ultra 40WP and list of Grasses and Broadleaf Weeds.
12. Updated section under Turfgrass.
13. Updated Use Precautions and Restrictions throughout the label. This was divided in two distinctive sections (Use Precautions and Use Restrictions).
14. Updated the Do not graze livestock... restriction throughout the label by adding "within 365 days of treatment" under Use Restriction.
15. Updated section under Turfgrass - Application Directions including sub-sections, application rate tables, use precautions and restrictions, among others.
16. Updated bullet points under the Preemergence Application Rates, Frequency and Timing section.
17. Updated section under Use Directions for Ornamentals and added Christmas Trees.
18. Updated section under Use Directions for Ornamentals - Application Directions including sub-sections, application rate tables, use precautions and restrictions, among others.
19. Added the following restrictions under Use Restriction section for Non-Cropland and Natural Areas:
  - a. Do not exceed maximum use rates per year.
  - b. In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).
20. Added the following restrictions under Use Restriction section for Use Directions For Ornamentals (Landscape, Field Grown, and Container Grown) and Christmas Trees:
  - a. Do not apply this product to grasses grown for seed.
  - b. Do not graze livestock or feed forage cut from areas treated with this product within the calendar year.
21. Added the following restriction:
  - a. Chemigation: Do not apply through any type of irrigation system.
22. Added the following restriction under Application Rates:
  - a. Do not apply more than 0.5 lb ai/acre per application or more than 1.5 lb. ai/acre per year using split or sequential applications.
  - b. In New York State, this product may be used by commercial applicators only, at no more than 1.25 pounds (20 ounces) or 4 water-soluble pouches per acre per year (0.5 lb active ingredient). In Nassau and Suffolk counties of New York, do not exceed 0.625 pounds (10 ounces) or 2 water-soluble pouches of this product per acre per year (0.25 lb of active ingredient).
23. Updated the Tolerant Ornamentals section and table.
24. Updated trademark line.



# SAFETY DATA SHEET

## DOW AGROSCIENCES LLC

**Product name:** DIMENSION™ Ultra 40WP Specialty Herbicide

**Issue Date:** 07/01/2016

**Print Date:** 07/01/2016

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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### 1. IDENTIFICATION

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**Product name:** DIMENSION™ Ultra 40WP Specialty Herbicide

**Recommended use of the chemical and restrictions on use**

**Identified uses:** End use herbicide product

**COMPANY IDENTIFICATION**

DOW AGROSCIENCES LLC  
9330 ZIONSVILLE RD  
INDIANAPOLIS IN 46268-1053  
UNITED STATES

**Customer Information Number:**

800-992-5994  
info@dow.com

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 800-992-5994

**Local Emergency Contact:** 352-323-3500

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### 2. HAZARDS IDENTIFICATION

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**Hazard classification**

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Carcinogenicity - Category 1A

Reproductive toxicity - Category 2

**Label elements**

**Hazard pictograms**



Signal word: **DANGER!**

**Hazards**

May cause cancer.

Suspected of damaging fertility or the unborn child.

**Precautionary statements****Prevention**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**

IF exposed or concerned: Get medical advice/ attention.

**Storage**

Store locked up.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

No data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Chemical nature:** Mixture

This product is a mixture.

Component	CASRN	Concentration
Dithiopyr	97886-45-8	40.0%
Kaolin	1332-58-7	>= 1.4 - <= 37.6 %
Titanium dioxide	13463-67-7	1.0%
Quartz	14808-60-7	0.4%
Toluene	108-88-3	0.2%
Balance	Not available	>= 20.8 - <= 57.0 %

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### 4. FIRST AID MEASURES

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**Description of first aid measures**

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in work area.

**Eye contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

**Ingestion:** No emergency medical treatment necessary.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## **5. FIREFIGHTING MEASURES**

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**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Aluminum oxides. Silicon oxides

**Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Do not use direct water stream. May spread fire. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Keep away from heat, sparks and flame. Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or mist. Wash thoroughly after handling. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Dithiopyr	Dow IHG	TWA	0.25 mg/m <sup>3</sup>
Kaolin	ACGIH	TWA Respirable	2 mg/m <sup>3</sup>
		fraction	
	OSHA Z-1	TWA total dust	15 mg/m <sup>3</sup>
	OSHA Z-1	TWA respirable fraction	5 mg/m <sup>3</sup>
Titanium dioxide	Dow IHG	TWA	2.4 mg/m <sup>3</sup>
	OSHA Z-1	TWA total dust	15 mg/m <sup>3</sup>



	ACGIH	TWA	10 mg/m <sup>3</sup> , Titanium dioxide
	CAL PEL	PEL Total dust	10 mg/m <sup>3</sup> , Titanium
	CAL PEL	PEL respirable dust fraction	5 mg/m <sup>3</sup> , Titanium
Quartz	OSHA CARC	TWA respirable	0.05 mg/m <sup>3</sup>
	ACGIH	TWA Respirable fraction	0.025 mg/m <sup>3</sup> , Silica
Toluene	ACGIH	TWA	20 ppm
	OSHA Z-2	TWA	200 ppm
	ACGIH	TWA	BEI
	OSHA Z-2	CEIL	300 ppm
	OSHA Z-2	Peak	500 ppm
	CAL PEL	PEL	37 mg/m <sup>3</sup> 10 ppm
	CAL PEL	C	500 ppm
	CAL PEL	STEL	560 mg/m <sup>3</sup> 150 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

#### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

#### Individual protection measures

**Eye/face protection:** Use chemical goggles.

##### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state

Powder

<b>Color</b>	Off-white
<b>Odor</b>	Sulfur-like
<b>Odor Threshold</b>	No data available
<b>pH</b>	6.0 - 7.0
<b>Melting point/range</b>	55 °C ( 131 °F)
<b>Freezing point</b>	Not applicable
<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point</b>	<b>closed cup</b> Not applicable
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Not applicable
<b>Flammability (solid, gas)</b>	No data available
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	No data available
<b>Water solubility</b>	Dispersible
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No test data available
<b>Dynamic Viscosity</b>	Not applicable
<b>Kinematic Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available
<b>Bulk density</b>	0.25 g/cm <sup>3</sup>
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Thermally stable at typical use temperatures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible materials:** Avoid contact with: Strong acids. Strong oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### **Acute toxicity**

#### **Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:

LD50, Rat, male and female, > 5,000 mg/kg

#### **Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, Rat, male and female, > 5,000 mg/kg

#### **Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

As product:

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.7 mg/l No deaths occurred at this concentration.

### **Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.  
Prolonged contact may cause skin irritation, even a burn.

### **Serious eye damage/eye irritation**

May cause eye irritation.  
May cause slight corneal injury.

### **Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

### **Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

### **Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient(s):

In animals, effects have been reported on the following organs:

Adrenal gland.

Kidney.

Liver.

Gall bladder.

Blood.

Thyroid.

For the minor component(s):

In animals, effects have been reported on the following organs:

Lung.

Repeated excessive inhalation exposures to dusts may cause respiratory effects.

**Carcinogenicity**

For the active ingredient(s): Did not cause cancer in laboratory animals.

For the minor component(s): Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies. Crystalline silica has been shown to cause cancer in laboratory animals and humans.

**Teratogenicity**

For the active ingredient(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother. For the minor component(s): In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; it has caused birth defects in mice when administered orally, but not by inhalation.

**Reproductive toxicity**

For the active ingredient(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the minor component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Carcinogenicity**

<b>Component</b>	<b>List</b>	<b>Classification</b>
<b>Titanium dioxide</b>	IARC	Group 2B: Possibly carcinogenic to humans
<b>Quartz</b>	IARC ACGIH	Group 1: Carcinogenic to humans A2: Suspected human carcinogen

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**Dithiopyr**

**Acute toxicity to fish**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, 0.5 mg/l



**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, > 1.1 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

EC50, Selenastrum capricornutum (green algae), Static, 5 d, 0.020 mg/l

ErC50, Lemna gibba (gibbous duckweed), 7 d, 0.014 mg/l

NOEC, Lemna gibba (gibbous duckweed), 7 d, 0.0024 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, Colinus virginianus (Bobwhite quail), > 2250mg/kg bodyweight.

dietary LC50, Colinus virginianus (Bobwhite quail), > 5620mg/kg diet.

contact LD50, Apis mellifera (bees), 48 Hour, > 100µg/bee

oral LD50, Apis mellifera (bees), 48 Hour, > 119µg/bee

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), > 1,000 mg/kg

**Kaolin**

**Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

**Titanium dioxide**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis

(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

NOEC mortality, Leuciscus idus (Golden orfe), static test, 48 Hour, > 1,000 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l

**Quartz**

**Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

**Toluene**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 5.8 mg/l

LC50, Fish, flow-through test, 96 Hour, 5.5 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 24 Hour, 7 mg/l, OECD Test Guideline 202

LC50, water flea Ceriodaphnia dubia, semi-static test, 48 Hour, 3.78 mg/l

**Acute toxicity to algae/aquatic plants**

EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 12.5 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

IC50, Bacteria, 16 Hour, 29 mg/l

**Chronic toxicity to fish**

NOEC, Fish, flow-through test, 40 d, growth, 1.4 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia dubia (water flea), 7 d, number of offspring, 0.74 mg/l

NOEC, Daphnia magna (Water flea), 21 day, number of offspring, 2 mg/l

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 150 - 280 mg/kg

**Balance**

**Acute toxicity to fish**

No relevant data found.

**Persistence and degradability**

**Dithiopyr**

**Biodegradability:** Biodegradation may occur under aerobic conditions (in the presence of oxygen).

**Kaolin**

**Biodegradability:** Biodegradation is not applicable.

**Titanium dioxide**

**Biodegradability:** Biodegradation is not applicable.

**Quartz**

**Biodegradability:** Biodegradation is not applicable.

**Toluene**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

**Biodegradation:** 100 %

**Exposure time:** 14 d

**Method:** OECD Test Guideline 301C or Equivalent

**Theoretical Oxygen Demand:** 3.13 mg/mg Calculated.

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 2 d

**Method:** Estimated.

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential**

**Dithiopyr**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 4.75 Measured

**Kaolin**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Titanium dioxide**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Quartz**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Toluene**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 2.73 Measured

**Bioconcentration factor (BCF):** 13.2 - 90 Fish Measured

**Balance**

**Bioaccumulation:** No relevant data found.

**Mobility in soil**

**Dithiopyr**

Expected to be relatively immobile in soil (Koc > 5000).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

**Partition coefficient (Koc):** 20500

**Kaolin**

No relevant data found.

**Titanium dioxide**

No data available.

**Quartz**

No relevant data found.

**Toluene**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 37 - 178 Estimated.

**Balance**

No relevant data found.

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## 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and

physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## **14. TRANSPORT INFORMATION**

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**DOT**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Dithiopyr)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Dithiopyr
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.(Dithiopyr)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## **15. REGULATORY INFORMATION**

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**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

Delayed (chronic) Health Hazard



**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Pennsylvania Worker and Community Right-To-Know Act:**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
Kaolin	1332-58-7
Titanium dioxide	13463-67-7

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm.

**United States TSCA Inventory (TSCA)**

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

**Federal Insecticide, Fungicide and Rodenticide Act**

EPA Registration Number: 62719-445

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if absorbed through skin

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**16. OTHER INFORMATION**

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**Hazard Rating System**

**NFPA**

Health	Fire	Reactivity
1	0	0

**Revision**

Identification Number: 101197845 / A211 / Issue Date: 07/01/2016 / Version: 7.0

DAS Code: XF-00010

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
BEI	Biological Exposure Indices
C	Ceiling
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
CEIL	Acceptable ceiling concentration
Dow IHG	Dow Industrial Hygiene Guideline
OSHA CARC	OSHA Specifically Regulated Chemicals/Carcinogens
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	USA. Occupational Exposure Limits (OSHA) - Table Z-2
Peak	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
PEL	Permissible exposure limit
STEL	Short term exposure limit
TWA	Time weighted average

**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.